

Managing Low-Quality Irrigation Water

Kings Links by the Sea
Mike Kiener, superintendent

Delta, British Columbia

Issue

A sustainable water supply is essential for all golf courses, even those located in areas that receive ample natural rainfall. Kings Links by the Sea, located south of Vancouver, British Columbia, was designed and built to use a non-potable water source. They draw irrigation water from a canal system that services local farms. This water source is advantageous because it is less likely to face government restrictions during a drought. However, the water does have moderate bicarbonate levels. This can create turf issues if bicarbonates are allowed to accumulate in the soil.

Action

Superintendent Mike Kiener uses several techniques to manage bicarbonate accumulation. He routinely flushes the soils with gypsum during the summer irrigation season and he waters primary playing areas as little as possible to minimize salt accumulation. In addition, irrigation has been eliminated from maintained rough and naturalized areas. Golfers at Kings Links



To limit water use, at least 20-25 acres of rough have been naturalized at Kings Links. In addition, maintained roughs no longer receive regular irrigation.

experience firm and fast conditions during the summer and see lots of brown turf on the golf course. When the wind is blowing, one would be hard pressed to find a closer approximation of links golf in British Columbia.

Results

Using a non-potable water source has helped Kings Links remain sustainable while other courses in the area have struggled with water restrictions. In July of 2015, the Greater Vancouver Water District imposed restrictions that stopped all water use on fairways and roughs for courses using potable water. Extensive turf loss occurred at many courses, but those with non-potable water sources have come through the restrictions in good condition. At Kings Links by the Sea, conditions remained unchanged during this difficult season because the owners had the foresight to utilize a sustainable water source, despite less than ideal water quality. Using water sparingly and routinely flushing the soils with gypsum has helped keep bicarbonate levels under control and the course has not experienced any turf issues from their non-potable water source.

Kiener said, “I think we set an example of how to approach building and acquiring the correct source of water in this environment. Water use is the single biggest issue golf courses will face in the future and they better be prepared with phenomenal management practices moving forward.”